

Sheet 1

- (1) What is the difference between a microcontroller and a microprocessor?
- (2) Why do microcontrollers exist at all? Why not just use a normal processor and add all necessary peripherals externally?
- (3) What do you believe are the three biggest fields of application for microcontrollers? Discuss your answers with other students.
- (4) Visit the homepage of some electronics vendors and compare their stock of microcontrollers.
 - (a) Do all vendors offer the same controller families and manufacturers?
 - (b) Are prices for a particular controller the same? If no, are the price differences significant?
 - (c) Which controller families do you see most often?
- (5) Name the basic components of a microcontroller. For each component, give an example where it would be useful.
- (6) What is an embedded system? What is a real-time system? Are these terms synonyms? Is one a subset of the other? Why or why not?
- (7) Why are there so many microcontrollers? Wouldn't it be easier for both manufacturers and consumers to have just a few types?